



U.S. Department of Commerce  
National Oceanic and Atmospheric Administration



# INFORMATION RESOURCE MANAGEMENT STRATEGIC PLAN 2013-2018 EXECUTIVE SUMMARY

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# A Message from the CIO



I am pleased to present the National Oceanic and Atmospheric Administration (NOAA) Information Resources Management Strategic Plan Executive Summary for 2013 – 2018.

This plan outlines how information services will support NOAA's science, service, and stewardship mission.

We are currently in one of the most constrained budget environments in modern history. We are challenged to make better use of our limited resources not only to enable NOAA's mission, but to also meet the needs and expectations of a changing workforce. The Office of the Chief Information Officer (OCIO) is working to identify the best ways to evolve our IT infrastructure and services in order to deliver the most effective and efficient enterprise information services.

Alongside these challenges, we are also presented with unique opportunities. New policy guidance gives us the ability to improve transparency and decision-making by leveraging IT resources across the Bureau. New technologies will spur innovation and increase the mission impact of our workforce.

This is an exciting time for the OCIO, as we embark on a new operating model and a new way of doing business. This plan reflects our excitement and affirms our commitment to be a strong business partner to the enterprise, improve the quality of services we provide, ensure these services are secure and always available, and support the critical mission of NOAA.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joe Klimavicz'.

Joseph F. Klimavicz  
Chief Information Officer  
Director, High Performance Computing  
and Communications  
National Oceanic and Atmospheric  
Administration

# Introduction

Over the next five years, NOAA OCIO is transforming itself from an organization focused solely on maintaining IT efficiency and supporting NOAA's mission to a new operating model, the cornerstone of which is founded on the delivery of shared enterprise information services.

The challenges facing NOAA and the OCIO are complex and inter-related – resource limitations, for instance, not only decrease the number and scope of initiatives that can be undertaken, they also reduce the available workforce; cyber security threats are not only direct risks to information loss, exposure, or manipulation, they also impact the types of mobile services that can be provided. Our approach to addressing this complexity is to pursue a comprehensive transformation, with enterprise service delivery as the core concept.

As a result of ongoing budget constraints and lack of budget clarity (e.g., operating under successive continuing resolutions), agencies are operating with significant funding uncertainty. Since these conditions have persisted for a number of years with no relief in sight, our expectation is that this will become the new economic normal. As operating costs drive budget planning, a further challenge of this new reality is that fewer resources are available to fund the needed transformation efforts.

Our response to this financial uncertainty is to chart an implementation roadmap that identifies incremental programs, whose funding can be identified and independently justified, but which, when taken as a whole, will transform the OCIO's business model, business practices, operating culture, and technology.

What this Strategy Means to NOAA:

**Better Information,  
More Collaboration,  
and Improved Performance**

At 06:30 a.m., prior to leaving for the office, the meteorologist-in-charge (MIC) of the Weather Forecast Office (WFO) checks her tablet computer. At the top left of her screen is a picture showing 25 new emails, six documents waiting for her review, and three new comments on a blog post she made the night before. A ticker-tape style "crawl" across the bottom of her screen summarizes the local weather and water conditions.

In the middle of the screen, a map shows current weather conditions on the eastern shore, as well as forecast images for her County Warning Area (CWA). A set of thunderstorms in those forecasts seem to be propagating much faster than the previous day.

An IM from the lead forecaster notifies her that they have just received results of a supercomputer high resolution forecast of the thunderstorms in the CWA. The MIC can update the forecast; the storms will decrease and move offshore.

Additional challenges facing the OCIO include the expected tripling of the size of NOAA data holdings, as advances in data collection technologies increase both the resolution and frequency of collection. Along with this rapid growth in data volume and technology, cyber security concerns continue to rise with each new, increasingly sophisticated threat. Even as these challenges present themselves, our key resource, the skilled staff that has dedicated itself to NOAA's mission over the years, is approaching retirement age, potentially leading to a fundamental loss of institutional knowledge and experience.

A number of solutions are available to meet these technical, organizational, and cultural challenges. Technology advancements, including cloud computing, mobile devices, big data, and grid computing, have allowed us to provide greater information ingestion, processing, and dissemination capabilities at greater scales. Organizational opportunities include recent policy changes that clarify and strengthen IT investment management and governance, which will provide greater economies of scale and scope for NOAA while maintaining mission-specific services and technologies. We also have a cultural opportunity to take advantage of: the changing behaviors and expectations that new entrants to the workforce bring with them. These expectations include information devices and services that are highly interactive and promote information sharing, collaboration, and innovation. We can extend these behaviors, and the more open culture they support, into business policies, practices, and processes.

**Figure 1 – NOAA OCIO's Enterprise Information Service Delivery Model**

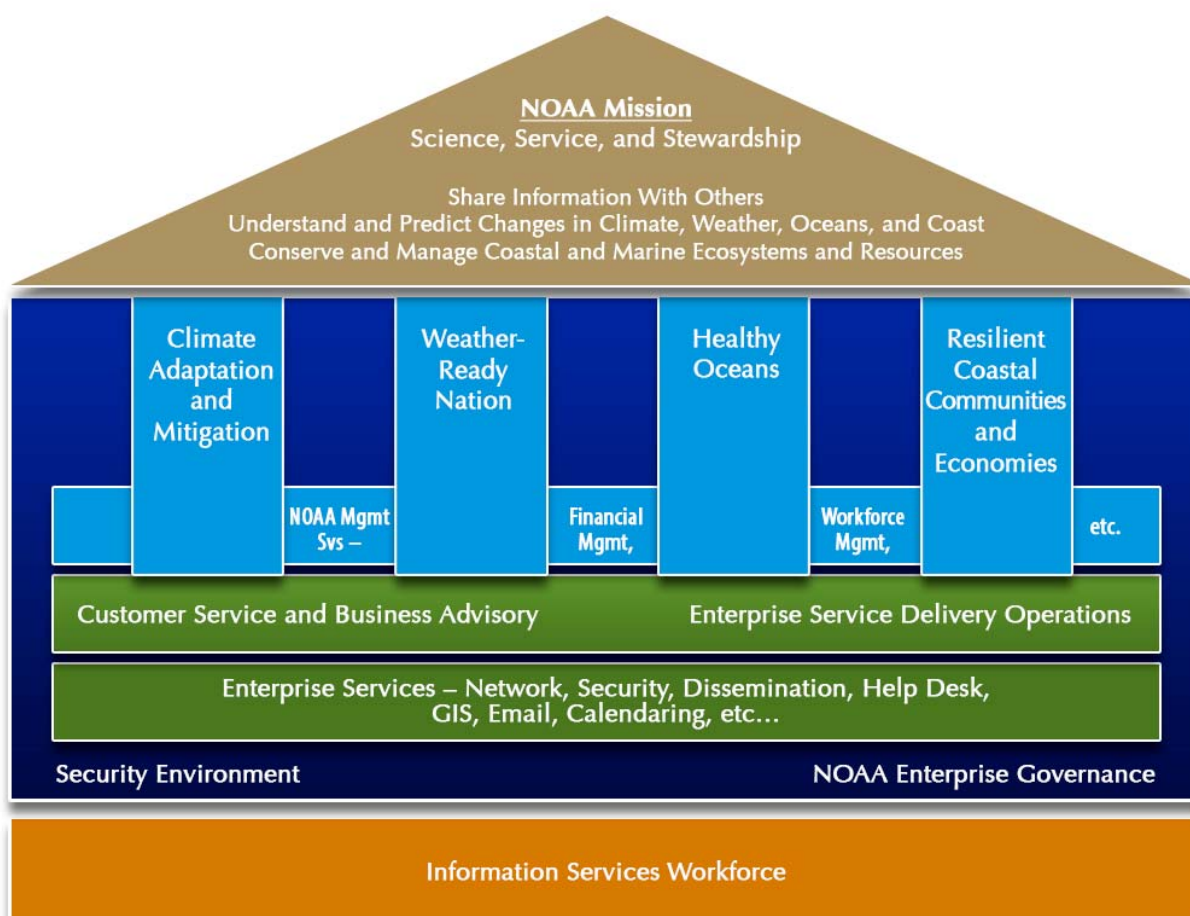




Figure 1, “NOAA OCIO’s Enterprise Service Delivery Model,” represents the current vision for how our new business model and new business practices and technologies can be arranged to provide improved services, more securely, while avoiding unnecessary costs. In the role of advisor and broker, the OCIO will continuously seek out opportunities to provide enterprise information services. We will deploy these services cost-effectively from a virtualized infrastructure that enhances security, promotes integration, and provides economies of scale across the NOAA enterprise. Quality of service, security, and customer support are the operational cornerstones of this new operating model.

Our approach to planning, designing, implementing, and managing these enterprise services will use the Information Technology Infrastructure Library Service Management Practices (ITIL V3). These practices are proven methods for developing IT Services Strategy, Service Design, Service Transition, Service Operation, and Continual Service Improvement. The components of this operating model, and interactions between them, are described below:

**NOAA Line Office (LO) and Management Services** will be required for the foreseeable future. By identifying and effectively delivering those truly LO - unique services, and centralizing all enterprise services, the enterprise information service delivery model will allow NOAA to optimize its investment in these critical LO tools.



A critical goal for OCIO in executing the enterprise information service delivery model will be to effectively and efficiently identify, acquire, deploy, and manage enterprise information services. Success will require an engaged and supportive customer service mindset. Just as important is the willingness and ability to understand our customers’ needs and expectations. The **Customer Service and Business Advisory** function will establish credibility for this operating model by working effectively with stakeholders across the agency, accurately anticipating and introducing information services that support innovation in mission performance.

Significant operational changes will be required to successfully execute the enterprise information service delivery model. Our ability to define and enforce Service Level Agreements, for example, will play a much larger role in determining our success.



**Enterprise Service Delivery Operations** will support mission needs by deploying those enterprise services currently underway (Help Desk, Dissemination, Network Optimization, Cyber Security) as well as new services as they are developed. Ongoing success will require continually meeting clients’ expectations while refining and improving the **Enterprise Services** infrastructure. A critical aspect of enterprise information service delivery model is the ongoing system engineering required to ensure that this infrastructure (leveraging cloud computing technologies and selectively managed by NOAA) continues to meet security, operational, performance, and reliability requirements, even as new services are continuously added.

## The Security Environment and NOAA Enterprise Governance

define and enforce appropriate policies for managing risk, performance, and priorities for operating the enterprise information service delivery model. By making resource trade-offs and design decisions at the enterprise level, NOAA will be able to maximize the impact of the enterprise information service delivery model on the NOAA's Mission.



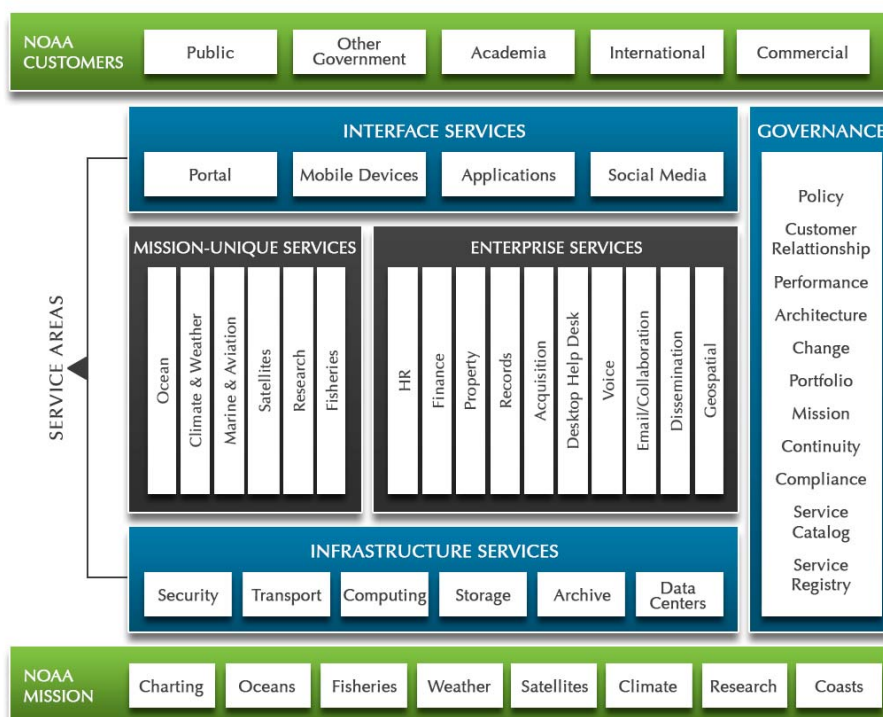
## The Information Services Workforce

will continue to be the key resource for delivering information services to the agency. New skills and behavior will be required, in order to operate in the advisory and brokerage functions of the enterprise information service delivery model. Continuous learning will be an ongoing part of our culture moving forward, both at the individual level (so that new skills are brought into the agency) and at the managerial level (so that we learn from our experience and continually improve our performance). Because of the nature and scope of the transformation that the enterprise information service delivery model requires, a greater tolerance for risk will be necessary. Effectively managing this risk will require greater reliance on our decision-making, better-informed decisions, and a culture of information and resource sharing.



This Enterprise Information Service Delivery model presents the operational context for delivering the enterprise services described in NOAA OCIO's Enterprise Services Model (Figure 2). NOAA OCIO has begun initial technical system architecture design of the infrastructure needed to provide these enterprise services. Users will be provided with a standard set of processes and tools for discovering, selecting, configuring, and paying for the services they use. The enabling technology will be a cloud service brokerage function that matches demand with supply. The design intent of this model is to hide the complexity of managing these services from the common user, while provisioning resources and services in an elastic, scalable, high performance, secure infrastructure.

FIGURE 2 – NOAA OCIO'S ENTERPRISE SERVICES MODEL



## Our Mission

To deliver information and technology services to enable NOAA's mission.

## Our Vision

A secure and agile information enterprise with advanced computing capability that propels NOAA's scientific and operational missions.

## Our Goals

NOAA OCIO has established four organizational goals to be achieved by 2018. These goals demonstrate OCIO's vision for supporting NOAA's mission:

### GOAL



#### **Improve Information Services**

Provide world-class information services to end users, enabling innovation, improving science, and providing greater customer satisfaction

### GOAL



#### **Improve Efficiency of Delivering Information Services**

Improve the efficiency of delivering information services across agency operations and management by employing agile and innovative methodologies, processes, and tools

### GOAL



#### **Protect the Mission**

Provide worldwide, secure access to data, information, and systems and continuously protect these assets from loss or unauthorized access

### GOAL



#### **Position the Information Services Workforce**

Enable and equip a high performance information services workforce that is highly motivated, customer service oriented, diverse, and focused on transformative goals



## GOAL

# 1

### Improve Information Services

Provide world-class information services to end users, enabling innovation, improving science, and providing greater customer satisfaction

Information is at the core of NOAA's mission to "understand and predict changes in climate, weather, oceans, and coasts", and then to "share that information and knowledge with others"<sup>1</sup>. To fulfill this mission, NOAA must have high performance, secure and cost-effective information services. Even as NOAA faces what may be long-term resource limitations, its mission is becoming more critical, more reliant on computing capability, and generating greater and greater amounts of data. An enterprise information service delivery model operating model provides answers to these challenges.

OCIO has identified an initial set of enterprise services (Help Desk, Dissemination, Network Optimization, Cyber Security) that are required across the enterprise, and is piloting the enterprise information service delivery

#### Guiding Principles – Improve Information Services

- An Enterprise Service is any information service that can support more than one Line Office
- Provide secure, remote, and mobile access to all information services
- Facilitate integrated enterprise-wide systems
- Promote openness and transparency

#### What This Strategy Means to One Customer:

##### Improved Information Services

While driving her family to their summer cabin, a National Weather Service analyst receives a notice on her mobile phone, which plays out over her car speakers. A tropical storm that she had just begun tracking has encountered a low pressure system south of Jamaica, which could send it north. The island is still recovering from a recent storm, and is not prepared for another. Her smart phone, plugged into its cradle, becomes a collaboration tool, connecting her to an analyst team in Silver Spring, the High Performance Computing team in Boulder, and the local observing station in Kingston. Within minutes, the team is able to select a new data set to use, and the most accurate predictive model to run, and has an updated trajectory for the storm. Kingston is likely to avoid most of the storm's effects, but is notified in time to prepare for a significant amount of rain and wind.

<sup>1</sup> NOAA's Next Generation Strategic Plan, December 2010, p.3,  
[http://www.ppi.noaa.gov/wp-content/uploads/NOAA\\_NGSP.pdf](http://www.ppi.noaa.gov/wp-content/uploads/NOAA_NGSP.pdf)

model by deploying them in a centralized manner. As new information services are identified for the enterprise information service delivery model, the OCIO will collaborate with users and technologists to choose those that have greatest value to the enterprise. They will then be acquired through enterprise-wide acquisition processes (e.g., NOAALink), integrated into the agency's shared infrastructure, and deployed through standard service delivery processes. Over time, an expanding "Services Catalog" will enable users across NOAA to select, configure, and pay for information services on demand.

Delivering Enterprise Services will require significant change in operations, technology, and the workforce. Entirely new operating processes will discover, acquire, deliver, and manage Enterprise Services for 22,000 NOAA employees, contractors, and affiliates. We will deliver cloud computing, mobile device management tools, geospatial information, and other advanced services through a new infrastructure of supporting policies, processes, skillsets, and technologies.

## GOAL

# 1

### Improve Information Services

Provide world-class information services to end users, enabling innovation, improving science, and providing greater customer satisfaction

| Objectives  | Initiatives  | Milestones   |
|---|--|--|
| <b>Objective 1.1</b><br>Plan and implement the transformation to the Enterprise Information Services delivery model                                 | <ul style="list-style-type: none"> <li>• Manage the IT Portfolio</li> <li>• Establish an OCIO shared-services operating model</li> <li>• Establish a NOAA Services Architecture (including framework, "As Is", and "Target")</li> <li>• Establish and implement a shared-services roadmap</li> <li>• Develop Enterprise Service Catalog</li> </ul>   | <ul style="list-style-type: none"> <li>• Establish an Information Services Portfolio Management strategy, incorporating continuous improvement, by the end of Q3FY14</li> <li>• Establish OCIO shared services operating model by the end of Q3FY14</li> <li>• Achieve stakeholder endorsement of shared information services roadmap by the end of Q2FY14</li> <li>• Publish Enterprise Service Catalog by the end of FY14</li> </ul>   |
| <b>Objective 1.2</b><br>Effectively deliver enterprise information services using the enterprise information service delivery model operating model | <ul style="list-style-type: none"> <li>• Deliver the following services:               <ul style="list-style-type: none"> <li>• National Help Desk</li> <li>• Enterprise Dissemination</li> <li>• Mobile Device Management (MDM)</li> <li>• Security Operations Center (SOC)</li> <li>• Unified Messaging Service (UMS)</li> <li>• High Performance Computing (HPC)</li> <li>• Voice Over IP (VOIP)</li> <li>• Smartphones</li> <li>• Network Optimization</li> <li>• Cyber Security</li> <li>• Data Center Consolidation</li> <li>• Administrative IT Consolidation</li> <li>• Website Consolidation</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Achieve targeted performance levels for service delivery for Help Desk, Enterprise Dissemination, MDM, UMS, HPC, VOIP, Smartphone support</li> <li>• Place 95% of NOAA internet connections behind Trusted Internet Connection Access Provider (TICAP) by the end of FY14</li> <li>• Manage all border routers with the NOC by the end of FY14</li> <li>• Manage all internal routers with the NOC by the end of FY15</li> <li>• Deploy 50% of NOAA FISMA systems on public or private cloud by the end of FY18</li> <li>• Deploy 80% of web servers on standard infrastructure by the end of FY18</li> </ul> |

|  |  |   |
|--|--|---|
| <p><b>Objective 1.3</b><br/>Achieve and measure increasing levels of customer satisfaction</p> | <ul style="list-style-type: none"> <li>• Initiate stakeholder engagement</li> <li>• Identify customer priorities</li> <li>• Baseline current customer satisfaction</li> <li>• Initiate yearly customer satisfaction surveys, focused on select types of service and customer expectations</li> </ul> | <ul style="list-style-type: none"> <li>• Establish Customer Advisory Boards and governance processes for the services in the NOAA Service Catalog by the end of Q3FY14 (utilizing existing governance bodies wherever appropriate)</li> <li>• Achieve improved customer satisfaction in targeted service delivery areas continually each year, FY14-FY18</li> </ul> |
|--|--|---|

## GOAL

# 2

### **Improve Efficiency of Delivering Information Services**

Improve the efficiency of delivering information services across Agency operations and management by employing agile and innovative methodologies, processes, and tools

NOAA has one of the most information dependent missions in the federal government. The agency employs a highly skilled and technical workforce that is both a consumer and producer of information. Additionally, the single largest classification of service that NOAA provides the public is the delivery of information.

As competition for resources increases, it is imperative that information services enable the NOAA workforce to do more with less through improved system engineering, affordable security, and effective portfolio management. Increased efficiency will mean that more resources can be reinvested into the life saving and environmental stewardship responsibilities of the agency.

To achieve new efficiencies, the OCIO will serve as NOAA's knowledge integrator and information service broker. In this role we will provide initial funding to develop and acquire shared services, champion funding mechanisms to enable sharing services across

Line Offices, Headquarters, and Staff Offices will finance the cost of decommissioning legacy IT and disposing of underutilized IT property.

#### **Guiding Principles – Improve Efficiency**

- All enterprise information services will be designed, delivered, and managed using cost-effective, centralized, standard practices, processes, infrastructure, and tools
- Information services acquisitions will be prioritized as: re-use, subscribe, lease, buy, build
- Opportunities to leverage commercial economies of scale and scope will be identified in all acquisitions – e.g., Cloud computing providers, Trusted Internet Connection Access Providers, NWave
- Resources made available through standardization will be redeployed to support NOAA's mission

#### **What This Strategy Means to Our Customers:**

### **Improve the Efficiency of Delivering Information Services**

In 2011, NOAA's existing email and calendar infrastructure was fragile and past end-of-life. Rather than building an in-house solution, NOAA transitioned its 22,000 employees, contractors, and affiliates to a cloud-based email and calendar service, Unified Messaging Service (UMS). By using cloud computing, the solution allowed NOAA to ramp up quickly, avoid redundancy, and provide new services and capabilities. UMS cost 50% less than an in-house solution. Using cost-effective new technology kept important funds with the mission.



The enterprise information service delivery model will provide many sources of potential savings and increased efficiency. Specific measures include: consolidating redundant and duplicative technologies and services, mainstreaming unique technologies and services, utilizing economies of scale and scope in acquisitions and deployment, gaining greater insight into information and technology spending, and streamlining acquisitions business processes.

The NOAA enterprise information service delivery model will rely on standardized processes and will require Line and Staff Offices to leverage each other's resources – maximizing the utility of the data and information we collect and produce while optimizing performance. For example, NOAA's High Performance Computing uses more cost effective next-generation computational technologies by sharing computing with the Department of Energy's Oak Ridge National Laboratory.

## GOAL

# 2

### Improve Efficiency of Delivering Information Services

Improve the efficiency of delivering information services across Agency operations and management by employing agile and innovative methodologies, processes, and tools

| Objectives  | Initiatives  | Milestones  |
|---|--|---|
| <b>Objective 2.1</b><br>Plan and Implement Enterprise Portfolio Management (EPfM) | <ul style="list-style-type: none"> <li>• Manage the IT Portfolio</li> <li>• Develop Enterprise Service Catalog</li> <li>• Establish Working Capital Fund</li> <li>• Define strategic investment areas</li> <li>• Establish Portfolio investment performance targets</li> </ul>   | <ul style="list-style-type: none"> <li>• Publish Enterprise Service Catalog by the end of FY14</li> <li>• Implement EPfM governance, policies, practices, and processes by end of Q3FY14</li> <li>• Achieve target Enterprise Portfolio performance levels by the end of FY14</li> <li>• Continue to achieve EPfM goals each subsequent year</li> </ul>   |
| <b>Objective 2.2</b><br>Measure and Achieve Operations Efficiencies               | <ul style="list-style-type: none"> <li>• Identify core business processes</li> <li>• Baseline business process costs and quality of delivery</li> <li>• Business process reengineering</li> <li>• Document and Publish standard business processes</li> <li>• Establish targeted benchmarks in Service Desk, Service Level Management, and IT Service Continuity Management</li> </ul> | <ul style="list-style-type: none"> <li>• Implement process performance measurement in 80% of select business processes by the end of FY18</li> <li>• Achieve target business process cost, efficiency, and quality performance levels by 12 months after reengineered process initiation</li> <li>• Achieve ISO/IEC 20000 (IT Service Management based on ITIL v3) certification by the end of FY15</li> <li>• Achieve 30% reduction in per seat cost for Administrative Services by the end of FY15</li> </ul> |
| <b>Objective 2.3</b><br>Measure and Achieve Procurement Efficiencies              | <ul style="list-style-type: none"> <li>• NOAALink</li> <li>• Rationalize and manage enterprise procurements</li> <li>• Standardize and optimize commodity procurements</li> <li>• Establish and achieve targeted benchmarks</li> </ul>   | <ul style="list-style-type: none"> <li>• Achieve 25% percent reduction in procurement cost per dollar of procured IT by the end of FY18</li> <li>• Achieve 95% schedule compliance for acquisitions projects by the end of FY18</li> <li>• Add three enterprise-wide software contracts in each year, from FY14 through FY18</li> </ul>   |

## GOAL

# 3

### Protect the Mission

Provide worldwide, secure access to data, information, and systems and continuously protect these assets from loss or unauthorized access

As climate change continues, our reliance on ocean and coastal livestock increases, and the interdependencies between climate, economics, and national security become more complex, NOAA's mission to protect the Nation's life and property has become ever more critical. The environmental data our satellites, ground stations, and field surveys collects is a key national asset. The computational models that our super-computing environment uses to analyze, understand, and predict our complex environment represent the most advanced knowledge the global community possesses in regards to current and future environmental risks. Protecting these assets, while making them reliable, available, and easy for our scientists to use, is one of OCIO's greatest challenges.

#### Guiding Principles – Protect the Mission

- Provide prioritized security and risk management for all NOAA information services assets
- Provide an always-available information service infrastructure
- Reduce information services infrastructure complexity by standardizing practices, processes, tools, and technologies
- Deploy enterprise security standards, policies, and tools

The standardized, centralized operating model of enterprise information service delivery model enables us to more effectively define and implement information and system security policies,

#### What This Strategy Means to One Customer:

##### Protect the Mission

A major office of NOAA, not yet "behind" our Trusted Internet Connection (TIC), sustained a cyber attack. The office's administrative network was compromised. The NOAA OCIO Cyber Security Division (CSD) helped the office respond to the attack, by quickly alerting the office, isolating the network, and identifying the type, location, and potential threats presented by the attack. Additionally, the CSD applied both automated and manual tools to ensure that the infrastructure was clear of threats before the network was put back in operation. Finally, CSD supported the office's network connection "behind" the TIC and provided other security services to reduce the chances of another attack occurring in the future. In the end, the cost of this attack to the office was four times what cost to use the TIC.

standards, tools, and processes. For example, our Network Optimization Project is implementing NOAA's Trusted Internet Connection Application Provider (TICAP) solution, and will ensure that all of our connections to the public internet are secured by a standard, industry-proven set of tools. Additional examples of centralizing and standardizing our security environment include the Cyber Security Center, the Security Operations Center, and our deployment of Enterprise-wide Continuous Monitoring and Mobile Device Management. Each enables us to clearly segment our infrastructure, and apply security measures appropriate for each segment. Moreover, these new technologies will

support NOAA's transition away from "stovepiped" solutions, and make more effective and efficient use of our cyber security investment.

As a science-based agency, NOAA's information processing and communications capabilities must remain at the leading edge of performance. Unfortunately, as computers and the internet continue to advance, they provide additional capabilities to cyber threats (including "hacktivists", economic hackers, and state-sponsored actors). We will continue to identify, prioritize, and deploy the advanced technologies our mission requires, while constantly evaluating opportunities to introduce commercially proven technologies.

## GOAL

# 3

### Protect the Mission

Provide worldwide, secure access to data, information, and systems and continuously protect these assets from loss or unauthorized access

| Objectives  | Initiatives  | Milestones   |
|---|--|--|
| <b>Objective 3.1</b><br>Implement a risk-based approach to information service delivery | <ul style="list-style-type: none"> <li>Utilize Enterprise Security Software</li> <li>Implement Homeland Security Policy Directive-12 (HSPD-12)</li> <li>Implement Enterprise Continuous Monitoring Operations (ECMO)</li> <li>Establish and implement NOAA-wide risk management policies, processes, standards, and tools</li> </ul> | <ul style="list-style-type: none"> <li>Achieve the key milestones on budget and on schedule for Enterprise Security Software, HSPD-12, and ECMO projects, through the end of FY18</li> <li>Implement two factor authentication solution for people that cannot get Common Access Cards by the end of FY14</li> <li>Revise and update NOAA Security Manual by the end of FY14</li> <li>Verify that 100% of NOAA security policies are uniformly implemented NOAA-wide by the end of FY14</li> <li>Completed NOAA enterprise security architecture by the end of FY14</li> </ul>   |
| <b>Objective 3.2</b><br>Decrease security exposure of information services              | <ul style="list-style-type: none"> <li>Implement Trusted Internet Connection Access Provider (TICAP)</li> <li>Implement Security Operations Centers (SOC)</li> <li>Internet Protocol v6 (IPv6)</li> <li>Meet Data Center Consolidation objectives</li> <li>Implement Mobile Device Management (MDM)</li> </ul>                       | <ul style="list-style-type: none"> <li>Place 95% of NOAA internet connections behind TICAPs by the end of FY14</li> <li>Manage all border routers with the NOC by the end of FY14</li> <li>Manage all internal routers with the NOC by the end of FY15</li> <li>Use IPv6 in 100% of NOAA IP transport infrastructure by the end of FY18</li> <li>Capture, analyze, and integrate the analysis of 100% of NOAA Primary Mission Essential Functions into planning and operations by the end of FY14</li> <li>Deploy 50% of NOAA FISMA systems on public or private cloud by the end of FY18</li> <li>Achieve targeted performance levels for service delivery for</li> </ul> |



|   |   |  |
|---|---|--|
|   |   | MDM  |
| <b>Objective 3.3</b><br>Improve Enterprise Event Response Posture | <ul style="list-style-type: none"> <li>• Complete Primary Mission Essential Function (PMEF) analysis</li> <li>• Complete and validate PMEF system response data</li> <li>• Simulate and optimize PMEF scenario responses</li> </ul> | <ul style="list-style-type: none"> <li>• Capture, analyze, and integrate the analysis of 100% of NOAA PMEFs into planning and operations by the end of FY14</li> </ul> |

## GOAL

# 4

### Position the Information Services Workforce

Enable and equip a high performance information services workforce that is highly motivated, customer service oriented, diverse, and focused on transformative goals

A modern and effective information services workforce is a key requirement for a successful and sustainable transformation to NOAA's enterprise information service delivery model. To succeed, the information services workforce must deliver and support information services in new and modern ways.

It is critical that the information services workforce focuses on the skills, knowledge, and delivery of only those services required to support NOAA's mission in the most secure, cost-effective, and sustainable manner.

The OCIO will lead NOAA's investment in the development of in-house critical skills to ensure that NOAA's intellectual capital is well preserved and that its workforce is ready to acquire and manage commercially available services, while retiring costly and rapidly outdated in-house solutions. Investing in NOAA's information services workforce in this manner will provide meaningful and challenging work for both existing and future staff.

#### Guiding Principles – Position the IS Workforce

- Develop a customer service orientation
- Implement ITIL-based approach to defining, delivering, and managing enterprise information services
- Facilitate innovative problem solving
- Provide technical expertise
- Support performance-based management
- Promote a culture of continuous learning
- Develop IT project, program, and contract services management skills

#### What This Strategy Means to Our Customers:

#### Position the IS Workforce

With a mandate to consolidate its data centers by 40% and a working team focused on executing that consolidation, NOAA is focused on maximizing the value of the data center consolidation effort. One result of the consolidation effort is a reduced need for system administrators, database administrators, and data center managers. As the consolidation progresses, part of the project's benefit will be the opportunity for current government staff to be retrained and deployed to providing mission-focused support, rather than providing commodity-level administrative services.

By aggressively executing the enterprise information service delivery model, NOAA will be creating an attractive work environment for recent entrants to the information services work force. Our candidate evaluation will focus on core skills of customer service and technical proficiency. Each staff members' performance plan will be composed of specific responsibilities and deliverables that tie directly to the successful transformation of NOAA to the enterprise information service delivery model operating model. We will prepare and support staff, at all levels, by identifying

specific certifications (e.g., ITIL, CMMI, HDI) to target, and specific ongoing learning to pursue. Just as recent changes to the OCIO's role in ACIO and ITSO assessments has strengthened accountability across NOAA's information services management, all of NOAA's information services staff will be accountable for their support and implementation of this strategy and its supporting initiatives. NOAA's IT workforce management plans ensure that we will have a qualified workforce to meet our needs.

## GOAL

# 4

### Position the Information Services Workforce

Enable and equip a high performance information services workforce that is highly motivated, customer service oriented, diverse, and focused on transformative goals

| Objectives   | Initiatives  | Milestones  |
|--|--|---|
| <b>Objective 4.1</b><br>Develop workforce skills aligned to enterprise information services roles and responsibilities | <ul style="list-style-type: none"> <li>Promote Project Management and Acquisitions certification</li> <li>Create workforce skills inventory</li> <li>Create workforce skills requirements</li> <li>Implement skills gap-closure program</li> </ul> | <ul style="list-style-type: none"> <li>Achieve planned targets for Project Management Professional (PMP) certification of project managers by the end of FY15</li> <li>Achieve planned targets for certification of acquisitions professionals by the end of FY15</li> <li>Close planned targets of the aggregate workforce skill gap by the end of FY15</li> </ul> |
| <b>Objective 4.2</b><br>Attract and retain a high-performance IT workforce   | <ul style="list-style-type: none"> <li>Define critical workforce performance indicators</li> <li>Identify recruiting and retention opportunities</li> </ul>  | <ul style="list-style-type: none"> <li>Align the performance review metrics of 100% of the OCIO IT workforce directly to the Information Services Strategic Plan by the end of FY14</li> <li>Achieve planned targets for reducing the cycle time of recruiting, hiring and on-boarding process by the end of FY15</li> </ul>  |
| <b>Objective 4.3</b><br>Align workforce processes to mission needs   | <ul style="list-style-type: none"> <li>Maintain legacy skills throughout transition</li> <li>Develop a culture of openness, sharing, and management transparency</li> </ul>  | <ul style="list-style-type: none"> <li>Achieve planned targets for the annual retention rate of "key" IT skill set individuals through the end of FY18</li> <li>Publish all releasable management documents on NOAA internal website</li> </ul>   |

# Appendix A: Information Resource Management Strategic Plan Objectives Summary

| Objectives  | Initiatives  | Milestones   |
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| <b>Objective 1.1 –</b><br>Plan and implement the transformation to the Enterprise Information Services delivery model                                 | <ul style="list-style-type: none"> <li>• Manage the IT Portfolio</li> <li>• Establish an OCIO shared-services operating model</li> <li>• Establish a NOAA Services Architecture (including framework, “As Is”, and “Target”)</li> <li>• Establish and implement a shared-services roadmap</li> <li>• Develop Enterprise Service Catalog</li> </ul>   | <ul style="list-style-type: none"> <li>• Establish an Information Services Portfolio Management strategy, incorporating continuous improvement, by the end of Q3FY14</li> <li>• Establish OCIO shared services operating model by the end of Q3FY14</li> <li>• Achieve stakeholder endorsement of shared information services roadmap by the end of Q2FY14</li> <li>• Publish Enterprise Service Catalog by the end of FY14</li> </ul>   |
| <b>Objective 1.2 –</b><br>Effectively deliver enterprise information services using the enterprise information service delivery model operating model | <ul style="list-style-type: none"> <li>• Deliver the following services:               <ul style="list-style-type: none"> <li>• National Help Desk</li> <li>• Enterprise Dissemination</li> <li>• Mobile Device Management (MDM)</li> <li>• Security Operations Center (SOC)</li> <li>• Unified Messaging Service (UMS)</li> <li>• High Performance Computing (HPC)</li> <li>• Voice Over IP (VOIP)</li> <li>• Smartphones</li> <li>• Network Optimization</li> <li>• Cyber Security</li> <li>• Data Center Consolidation</li> <li>• Administrative IT Consolidation</li> </ul> </li> <li>• Website Consolidation</li> </ul> | <ul style="list-style-type: none"> <li>• Achieve targeted performance levels for service delivery for Help Desk, Enterprise Dissemination, MDM, UMS, HPC, VOIP, Smartphone support</li> <li>• Place 95% of NOAA internet connections behind Trusted Internet Connection Access Provider (TICAP) by the end of FY14</li> <li>• Manage all border routers with the NOC by the end of FY14</li> <li>• Manage all internal routers with the NOC by the end of FY15</li> <li>• Deploy 50% of NOAA FISMA systems on public or private cloud by the end of FY18</li> <li>• Deploy 80% of web servers on standard infrastructure by the end of FY18</li> </ul> |



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| <p><b>Objective 1.3 –</b><br/>Achieve and measure increasing levels of customer satisfaction</p> | <ul style="list-style-type: none"> <li>• Initiate stakeholder engagement</li> <li>• Identify customer priorities</li> <li>• Baseline current customer satisfaction</li> <li>• Initiate yearly customer satisfaction surveys, focused on select types of service and customer expectations</li> </ul>   | <ul style="list-style-type: none"> <li>• Establish Customer Advisory Boards and governance processes for the services in the NOAA Service Catalog by the end of Q3FY14 (utilizing existing governance bodies wherever appropriate)</li> <li>• Achieve improved customer satisfaction in targeted service delivery areas continually each year, FY14-FY18</li> </ul>   |
| <p><b>Objective 2.1 –</b><br/>Plan and Implement Enterprise Portfolio Management (EPfM)</p>      | <ul style="list-style-type: none"> <li>• Manage the IT Portfolio</li> <li>• Develop Enterprise Service Catalog</li> <li>• Establish Working Capital Fund</li> <li>• Define strategic investment areas</li> <li>• Establish Portfolio investment performance targets</li> </ul>   | <ul style="list-style-type: none"> <li>• Publish Enterprise Service Catalog by the end of FY14</li> <li>• Implement EPfM governance, policies, practices, and processes by the end of Q3FY14</li> <li>• Achieve target Enterprise Portfolio performance levels by the end of FY14</li> <li>• Continue to achieve EPfM goals in each subsequent year</li> </ul>  |
| <p><b>Objective 2.2 -</b><br/>Measure and Achieve Operations Efficiencies</p>                    | <ul style="list-style-type: none"> <li>• Identify core business processes</li> <li>• Baseline business process costs and quality of delivery</li> <li>• Business process reengineering</li> <li>• Document and Publish standard business processes</li> <li>• Establish targeted benchmarks in Service Desk, Service Level Management, and IT Service Continuity Management</li> </ul> | <ul style="list-style-type: none"> <li>• Implement process performance measurement in 80% of select business processes by the end of FY18</li> <li>• Achieve target business process cost, efficiency, and quality performance levels by 12 months after reengineered process initiation</li> <li>• Achieve ISO/IEC 20000 (IT Service Management based on ITIL v3) certification by the end of FY15</li> <li>• Achieve 30% reduction in per seat cost for Administrative Services by the end of FY15</li> </ul> |
| <p><b>Objective 2.3 –</b><br/>Measure and Achieve Procurement Efficiencies</p>                   | <ul style="list-style-type: none"> <li>• NOAALink</li> <li>• Rationalize and manage enterprise procurements</li> <li>• Standardize and optimize commodity procurements</li> <li>• Establish and achieve targeted benchmarks</li> </ul>   | <ul style="list-style-type: none"> <li>• Achieve 25% percent reduction in procurement cost per dollar of procured IT by the end of FY18</li> <li>• Achieve 95% schedule compliance for acquisitions projects by the end of FY18</li> <li>• Add three enterprise-wide software contracts in each</li> </ul>  |

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|   |  | year, from FY14 through FY18   |
| <b>Objective 3.1 –</b><br>Implement a risk-based approach to information service delivery | <ul style="list-style-type: none"> <li>• Utilize Enterprise Security Software</li> <li>• Implement Homeland Security Policy Directive-12 (HSPD-12)</li> <li>• Implement Enterprise Continuous Monitoring Operations (ECMO)</li> <li>• Establish and implement NOAA-wide risk management policies, processes, standards, and tools</li> </ul> | <ul style="list-style-type: none"> <li>• Achieve the key milestones on budget and on schedule for Enterprise Security Software, HSPD-12, and ECMO projects, through the end of FY18</li> <li>• Implement two factor authentication solution for people that cannot get Common Access Cards by the end of FY14</li> <li>• Revise and update NOAA Security Manual by the end of FY14</li> <li>• Verify that 100% of NOAA security policies are uniformly implemented NOAA-wide by the end of FY14</li> <li>• Completed NOAA enterprise security architecture by the end of FY14</li> </ul>   |
| <b>Objective 3.2 –</b><br>Decrease security exposure of information services              | <ul style="list-style-type: none"> <li>• Implement Trusted Internet Connection Access Provider (TICAP)</li> <li>• Implement Security Operations Centers (SOC)</li> <li>• Internet Protocol v6 (IPv6)</li> <li>• Meet Data Center Consolidation objectives</li> <li>• Implement Mobile Device Management (MDM)</li> </ul>                     | <ul style="list-style-type: none"> <li>• Place 95% of NOAA internet connections behind TICAPs by the end of FY14</li> <li>• Manage all border routers with the NOC by the end of FY14</li> <li>• Manage all internal routers with the NOC by the end of FY15</li> <li>• Use IPv6 in 100% of NOAA IP transport infrastructure by the end of FY18</li> <li>• Capture, analyze, and integrate the analysis of 100% of NOAA Primary Mission Essential Functions into planning and operations by the end of FY14</li> <li>• Deploy 50% of NOAA FISMA systems on public or private cloud by the end of FY18</li> <li>• Achieve targeted performance levels for service delivery for MDM</li> </ul> |

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| <b>Objective 3.3 –</b><br>Improve Enterprise Event Response Posture  | <ul style="list-style-type: none"> <li>• Complete Primary Mission Essential Function (PMEF) analysis</li> <li>• Complete and validate PMEF system response data</li> <li>• Simulate and optimize PMEF scenario responses</li> </ul>                        | <ul style="list-style-type: none"> <li>• Capture, analyze, and integrate the analysis of 100% of NOAA PMEFS into planning and operations by the end of FY14</li> </ul>  |
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